

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 753 725 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
02.04.1997 Bulletin 1997/14

(51) Int. Cl.<sup>6</sup>: G01J 3/46

(43) Date of publication A2:  
15.01.1997 Bulletin 1997/03

(21) Application number: 96110832.1

(22) Date of filing: 04.07.1996

(84) Designated Contracting States:  
DE FR GB IT

(30) Priority: 12.07.1995 US 501502

(71) Applicant: MINNESOTA MINING AND  
MANUFACTURING COMPANY  
St. Paul, Minnesota 55133-3427 (US)

(72) Inventors:

- Edge, Christopher J.,  
c/o Minnesota Min and Man Co  
Saint Paul, Minnesota 55133-3427 (US)
- Souter, John,  
c/o Minnesota Mining and Manufact Co  
Saint Paul, Minnesota 55133-3427 (US)

(74) Representative: VOSSIUS & PARTNER  
Postfach 86 07 67  
81634 München (DE)

## (54) System and method for color characterization and transformation

(57) A system and method for color characterization and transformation obtain color data representing output of a color imaging system (56; 58), and convert the color data using a color space having a white reference vector (60) that is adjusted during the conversion. The white reference vector can be adjusted according to intensities of the color data being converted. Adjustment of the white reference vector serves to avoid non-uniformities for color imaging systems having different imaging bases, and thereby eliminates, or at least reduces, the amount of empirical adjustment necessary to obtain an acceptable visual match between the color imaging systems.

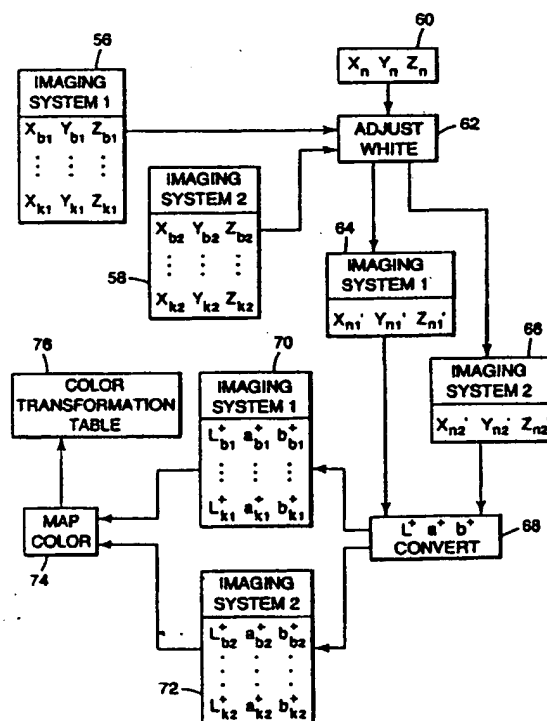


FIG. 4

EP 0 753 725 A3



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 96 11 0832

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claims	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	APPLIED OPTICS, vol. 29, no. 34, 1 December 1990, NEW YORK US, pages 5187-5192, XP000165701 S. SUZUKI ET AL.: "COLOR CHARACTERISTIC DESIGN FOR COLOR SCANNERS" * the whole document *	1	G01J3/46
A	---	2,6	
Y	US 4 965 663 A (T. SASAKI) * abstract * * column 1, line 12 - column 3, line 36 * * column 7, line 53 - column 9, line 38; figures 7,8 *	1	
A	---	2,6	
A	US 5 149 960 A (B. DUNNE ET AL.) * column 1, line 61 - column 4, line 9; figures 1,4,6,7 *	1,2,6	
A	---	1,2,6	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	GB 2 117 902 A (LOGE-INTERPRETATION SYSTEMS INC.) * abstract * * page 1, line 67 - page 2, line 120 * * page 4, line 1 - line 102; figures 2,6 *	1,2,6	G01J H04N
A	IEEE TRANSACTIONS ON BROADCASTING, vol. 38, no. 2, June 1992, NEW YORK US, pages 90-97, XP000309542 P.-R. CHANG ET AL.: "A COLOR CONSTANCY MODEL FOR ADVANCED TELEVISION CAMERAS" * the whole document *	1,2,6	
	---		
	-/--		
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>31 January 1997</b>	Examiner <b>Horak, G</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 96 11 0832

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	10TH INT. CONF. ON PATTERN RECOGNITION, vol. I, 16 June 1990, ATLANTIC CITY, N.J., USA, pages 803-807, XP000166419 S. TOMINAGA: "A COLOR CLASSIFICATION METHOD FOR COLOR IMAGES USING A UNIFORM COLOR SPACE" * the whole document * -----	1,2,6	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 31 January 1997	Examiner Horak, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

